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ABSTRACT

Although most instructors are solely responsible for the evaluation and grading of students, they rarely receive formalized training in test construction or other forms of evaluation. Evaluating highly motivated students in very small classes is a rather uncomplicated procedure; however, evaluating large classes in which students have a range of abilities, as is commom at community colleges, presents a more complex situation. Traditionally, teacher-made tests have consisted of essay questions, multiple-choice questions, or true and false questions, each of which has its advantages and drawbacks. To help faculty plan the evaluation procedures used in their courses, a testing center was established at Mercer County Community College (MCCC) in 1977. The center not only administers some 69,000 examinations for various MCCC courses, but also provides the New Jersey College Basic Skills Placement Test, course equivalency testing, and credentialling examinations. A survey regarding the quality, variety and adaptability of student evaluation at the college, presented to selected MCCC faculty, revealed the following: (1) subjective, essay examinations were limited mostly to the humanities and social sciences; (2) faculty in the disciplines of English, history, psychology, and business did not believe that they tested students for specific skills; (3) on the average, instructors administered tests to students every fourth week; (4) reasons cited for lack of use of the testing center included the absence of proper equipment (e.g., pianos, typewriters, or easels), an increased potential for cheating, and the inability for students to ask questions during exams; and (5) students were generally well informed regarding what is expected of them in preparation for evaluation. (ALB)

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METHODS OF EVALUATING STUDENTS AT THE COMMUNITY COLLEGE

May 1989

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In most instances, instructors are solely responsible for the evaluation and grading of students who are taking their courses. Although the importance of a valid evaluation process cannot be overemphasized, most instructors do not receive training in test construction and other forms of evaluation. How do they learn to evaluate? By imitation; instructors often use the methods employed by their professors. It is also probable that the many years of being evaluated as a student is, in itself, an education illustrating what is good and bad in evaluation methods.

The form of evaluation may be dictated by such factors such as class size, subject matter, and even student ability. Small classes and subjects such as literature, history, or philosophy lend themselves to subjective examinations, whereas large classes and certain science subjects may be adequately evaluated with objective examinations. In many instances, subjective examinations would be preferred, but objective examinations are chosen solely because of the impossible grading burden subjective examinations present when classes are large.
Unfortunately, community college economics often dictate large class sizes, leaving no choice for the instructor. In many subjects, where skills are an essential and integral component--for instance, art, nursing, medical laboratory technology, architecture, chemistry, and flight--a wide variety of evaluation

techniques may be employed. The objective of this paper will be to examine some of these evaluation techniques at the community college level.

It is a myth that students study because they want to learn (Anderson, 1987). They study because they are goal oriented. Their goals are many and varied and include economic benefits, approval, and maintenance of financial aid. The most immediate goal is to receive a good evaluation, whether it be on an examination or by other means. Students learn early in the semester what is expected of them and they then adjust accordingly. If examinations are rigorous and demanding, it is likely that they will be driven to study harder and learn more. If, on the other hand, examinations are not very demanding, they may slack off and devote the minimum necessary time to learning the subject matter. Thus, it may be concluded that the quality of evaluation is an integral part of teaching and imparting knowledge and skills to students.

The importance of student evaluation cannot be overemphasized when one considers the far reaching consequences beyond mastery of course objectives. Evaluation results may affect the student's self esteem and how he is treated by others. At stake may be his whole future, particularly his educational and job opportunities. As a consequence of the potential lifelong implications, evaluations may have many positive or negative influences on both teachers and students (Tyler, 1965). Students may experience high levels of anxiety about examinations, considering grades as their goal rather than as a

useful tool for measuring their progress. A student whose goal, for instance, is acceptance to medical school may be very concerned with high grades as an end in itself. Some students, if not rewarded by the results of examinations, may become discouraged. Others, finding examinations rewarding, may be spurred on.

Instructors teaching in a curriculum where there is accountability, such as board examinations, may be influenced to conduct their classes and compose their examinations differently than if there were no accountability. If one is teaching an English or history course, there may be no pressure from outside the college relevant to course content. On the other hand, if an instructor is teaching a course in a curriculum such as nursing, medical laboratory technology, radiographic technology, or even mortuary science, there is outside pressure dictating at least a majority of the course content and the nature of the evaluations. It certainly reflects poorly on an instructor if his students consistently fail the board examinations. Thus, instructors may be influenced to teach and evaluate to the board examinations.

Accountability will undoubtedly increase as state legislatures enact laws requiring exit tests. No longer will accountability be limited to curricula in which students must pass board examinations to practice their profession. Considering the level of accountability that exists currently, one cannot assume that a C grade in a course at one college reflects the same level of mastery as a C grade at another college (Losak, 1987). In fact, a C grade from two different

instructors teaching the same course at the same institution may represent distinctly different degrees of mastery.

How closely a grade represents a particular level of mastery is a function of the quality of evaluation more than any other factor. Two students may study the same subject with two different instructors; one instructor may be an excellent teacher and the other may be a poor teacher. Nevertheless, the student studying with the poor teacher may master the subject matter just as well as the other student because he is motivated, for whatever reason, to make up for the poor teacher's deficiencies. Quality instruction is highly desirable, but not essential, for engendering student mastery. Evaluation, on the other hand, distinguishes one level of mastery from another, provided, of course, that the method of evaluation measures what it is supposed to. The comparison of one grade with another may still be unreliable since, even though two different instructors may teach and evaluate similarly, they may grade on a different "curve".

It is curious that, in evaluating teachers at community colleges for promotion, retention, or tenure, test construction and other methods of student evaluation are either ignored or given little attention. The teacher is usually visited by one or more administrators and (or) colleagues during a formal classroom situation. The teacher's evaluators ordinarily avoid attending the class if an examination is planned because this would be a

"waste of time". Nevertheless, teachers are expected to devote considerable time to test construction, administration, grading, and other forms of student evaluation.

According to Losak (1987), the evaluation function should be separated from the teaching function, especially at the community college level. With very small classes and highly selected and motivated students, it is a relatively uncomplicated matter for the instructor to evaluate his students. With large classes, and students with a wide range of abilities as one finds at the community college, student evaluation becomes a complex endeavor. Perhaps emphasis should be placed on standardized testing for each college course. This would relieve the instructor entirely from evaluation tasks, allow him to devote more energy to teaching, and provide a much better focus for the student, for it is at the classroom level that the student may more efficiently attempt mastery of the subject matter, not at the "exit" level (Losak, 1987).

For the time being, testing and evaluation, for the most part, are done by instructors for their own courses. Teacher-made tests have commonly consisted of essay questions, multiple choice questions, or true and false questions.

In my judgment, true and false questions are the least desirable. They are the most likely to trip up the student who "knows too much" and therefore reads something false into a statement meant to be a simple straightforward truth for the average student. No matter how carefully a true and false question is constructed, one cannot anticipate the multiplicity

of interpretations that are possible considering the wide variety of experience and learning brought to the question by students.

According to Hoffman (1964), multiple-choice tests have many drawbacks; nevertheless, they are widely used, and they are defended vigorously by organizations that are in the objective examination business.

There are distinct advantages and disadvantages to essay tests. Some of the advantages include demonstration of the student's ability to "organize and critically evaluate facts drawn from broad and complicated bodies of subject matter, to express himself in an organized fashion, and to demonstrate achievement in grammar and spelling" (Wandt and Brown, 1957). Disadvantages of essay tests include low reliability of scoring due to the subjective process, possible inadequate sampling of the subject matter studied, and the very time-consuming scoring process.

When organizing a new course, one of the first decisions an instructor must make is how he will evaluate students. There are some shortcuts for accomplishing the task. Examinations may be based on commercial test banks that are published as a package along with some textbooks. Shortcuts for scoring examinations have been available for quite some time. Machine scoring of multiple-choice questions has been available for over twenty years at Mercer County Community College. Linked to the computer, the system evolved to provide more and more useful data

for reporting and analysis of grades. Test grading now has been weaned entirely from the computer center and is serviced by the testing center.

A testing center was established at Mercer County Community College in 1977. Initially not well understood or accepted by the faculty, utilization of its services has steadily increased until many faculty members have become dependent on the testing center and would be at a loss without its services.

About 75,000 examinations are administered by the testing center each year (Robey). Of these, about 69,000 are for courses offered at MCCC. The remainder are for other purposes such as the New Jersey College Basic Skills Placement Test, course equivalency testing, credentialling examinations (Veterinary, Medical Boards and Funeral Service Boards), Federal Aviation Examinations and remediation placement.

There are several ways faculty members may utilize the testing center. Examinations administered by the testing center may be instructor graded or, if of the multiple-choice type, opscan graded. In practice, about 50% are instructor graded and 50% opscan graded (Robey). Multiple-choice examinations administered in class also may be opscan graded by the testing center. Examinations administered and opscan graded by the testing center may be provided by the instructor, or be computer generated.

Examinations computer generated from a question bank allow for a great deal of flexibility in testing. Since there can be multiple variations of the same examination, students may be

allowed to take their examination whenever they think it is in their best interest to do so, provided that they comply with the time constraints defined by the instructor. Another option using multiple forms of the same examination is to allow students to take the examination two or more times for "mastery". This is of significant benefit to students, since they learn more as they repeatedly review to attempt to improve their test score. Several math courses at MCCC utilize mastery in testing, as well as do courses in aviation, nursing, and anatomy & physiology.

Of significant benefit to students taking opscan graded examinations in the testing center is on-line grading which gives students immediate feedback regarding their progress. Of benefit for instructors utilizing on-line grading are useful statistics for analyzing test results. Also, assistance in item writing, test construction, and test evaluation is available.

Colleges and universities are becoming increasingly aware of the need to accommodate physically disabled and learning disabled students. California, with approximately 50,000 disabled students, is a leader in funding programs for disabled students (Casey, 1987). Boston University has recently set up a special office to help the 25,000 learning disabled students who attend its 16 schools and colleges (Carmody, 1988). For evaluating disabled students, a delicate balance must be struck between maintenance of academic standards and accommodating the special disability of each individual student. Visually impaired students may be accommodated with large print tests, tests in braille, or orally administered tests. Deaf students may need to

receive information in sign language. Learning disabled students may simply need extended time to finish their examinations (Casey, 1987). Unlimited time is one advantage of a testing center, where the time constraint imposed by classroom testing does not apply. In some cases, special accommodations for disabled students may require test administration at a different time or place if the alternate method of test administration has the potential of distracting other students.

In order to evaluate the quality, variety, and adaptability of student evaluation at Mercer County Community College, I composed a survey that addresses many of the issues discussed in this paper. Since any survey attempted by mail may be subject to cursory treatment and a poor percentage of responses, I chose to interview selected faculty personally. Faculty members from diverse fields were chosen in order to explore the many and varied approaches to student evaluation that are employed based on parameters such as discipline, skills, goals, and physical and learning disability. Subject areas sampled were math, history, English, language, horticulture, nursing, engineering, music, mortuary science, business, computer science, chemistry, biology, art, psychology, and economics. The content of my survey used as a basis for personal interviews with MCCC faculty is as follows:

SURVEY

Methods of Evaluating Students at the Community College

1. What subjects (courses) do you teach?
2. How are students evaluated?
    A. Examinations
        1. Subjective
        2. Objective
        3. Practicum
    B. Laboratory Reports
    C. Projects
    D. Other
3. Do you evaluate skills? How?
4. What is the frequency of evaluation?
5. Is there a summative evaluation?
    A. What is the nature of the summative evaluation?
6. Should all courses have a summative examination? Why?
7. Where are your examinations administered?
    A. Class
    B. Testing Center
        1. Graded by Testing Center
        2. Graded by Faculty
    C. Other
8. Why do you, or do you not, administer examinations in the testing center?
9. What is the source of your examinations?
    A. Departmental
    B. Yourself

C. Commercial Test Bank

D. Other

10. How do students know what is expected of them in preparation for evaluations?

11. Have you made special accommodations for evaluating handicapped students? How?

12. How do your evaluations:

A. Insure that students master the subject

B. Challenge students

C. Sustain student interest in the subject

13. Should examinations be reviewed as part of the formal faculty evaluation? Why?

14. How did you learn to compose examinations?

A. Formal Training

B. Imitation

C. Other

Faculty members interviewed were very receptive to discussing student evaluation and seemed proud of the methods they developed for their courses. Following is a discussion summarizing the MCCC Faculty input for each of the survey questions (MCCC Faculty).

1. Most of the faculty at MCCC teach several different subjects, sometimes closely related in discipline and sometimes not. I believe that a high degree of flexibility and versatility is necessary for economic reasons and because of the nature of the curriculum at community colleges. Enrollment in philosophy courses and advanced language courses, for example, is usually low. Therefore, the one philosophy professor at MCCC must teach sociology in order to satisfy his minimum teaching load, and language teachers are also asked to teach English. In some cases, one person serves as coordinator of a curriculum and also the only full time teacher in that curriculum, so that he may teach all of the different courses that possibly can fit into his schedule, farming out the remainder to adjuncts. Such is the case with mortuary science, horticulture, medical laboratory technology, and radiography. An example of a professor teaching many different subjects, albeit not all in the same semester, is an MCCC psychology professor who teaches Introduction to Psychology, Social Psychology, Child Development, Abnormal Psychology, Personality, Human Sexuality, Stress Management, and Psychology of Women. Because of the variety of courses taught by MCCC faculty, each teacher may use several different methods of

student evaluation, depending on the nature of the subject taught.

2. Faculty in almost every discipline give examinations of either the subjective or objective type or a combination of both. An example of an exception is the fine arts, where faculty rely almost totally on subjective judgment of the artistic merit and level of improvement of the students' work. Another example is architecture, where creative projects are judged subjectively. Subjective, essay type examinations are limited mostly to the humanities and social sciences. Students in English courses commonly write essays and term papers. A history professor is firmly committed to essay examinations and research papers. Oral examinations are given in the languages. Objective examinations are given in courses such as Introduction to Psychology, where the classes are so large that it would be a burden to grade essay examinations. Outside of the humanities and social sciences, most testing is of the objective type, although there are exceptions: A computer science professor believes firmly in the essay type examination. Many objective examinations are administered in the testing center where students can get instant feedback because of the on-line grading system.

3. Certain disciplines do not lend themselves to skills. Professors of English, history, psychology, and business, for example, do not believe they test for skills. In many other disciplines, skills are integral. If skills are inadequate in aviation, the plane may crash; in horticulture the plants won't grow; in nursing the patient may die. In chemistry and

microbiology, students must determine the identity of unknown chemicals or bacteria. This can only be accomplished by students who have mastered the skills to carry out the necessary procedures. Skills are tested in biology laboratories by practical examinations. In music, students demonstrate their skill by playing the piano; in art it obviously takes skill to create a beautiful painting or sculpture. There are some gray areas where it is difficult to define whether or not a skill is involved as clearly as the skills discussed above. An example is languages, where one could consider the ability to hear and properly pronounce sounds to be a skill.

4. Evaluation of student progress at MCCC is done very frequently during each semester. None of the professors who participated in this survey gave only midterms and final examinations to their students. They give examinations, on the average, every fourth week. Many professors give a quiz every week, whether it be in recitation class, laboratory, or lecture. One art professor claims to evaluate his students' drawings during each class meeting. For the course in English composition, there are 18 quizzes and 9 essays. English teachers grade the essays, hand them back for improvement, and then grade them again. MCCC faculty members seem to have a commitment to frequent evaluation; they believe that the feedback and stimulus that accompanies frequent evaluation aids the learning process. To make sure that students are kept informed of their progress, the college sends a report at mid-semester to students who are not doing satisfactory work.

5. In the early years of MCCC, as a carry-over from Trenton Junior College from which MCCC evolved, final examinations were given in almost every course during a lengthy final examination period. An MCCC senate resolution then made the administration of final examinations optional. As part of a plan to end the Fall semester before Christmas, rather than carry the semester over into January, the final examination period was shortened to two days. This abbreviated final examination period, plus other discouragements by the college administration, led to a greatly reduced number of final examinations. For many years, the only final examinations given, with a few exceptions, were in the sciences. Many science instructors believed, and still do, that some sort of summative examination should be given in most courses. The most common reason that instructors give for this is that information learned piecemeal over the semester is then integrated in the student's mind to reach a higher level of understanding of the subject.

6. In recent years, the pendulum has swung back as the MCCC administration mandated that every course should have some sort of summative evaluation. The final examination period has been extended, but there has not been a significant increase in the number of final examinations. One reason for this is that many professors have become accustomed to finishing their evaluation duties by the last day of the semester and thus are resistant to extending their work period into what they now tend to view as vacation time. Since every course now is required to have a summative evaluation, some faculty satisfy the requirement by

claiming that their hourly examinations are accumulative. Teachers of fine arts claim, perhaps legitimately, that their summative evaluation consists of a critique of each student's work for the semester. Some professors give what they call a final examination during the last week of classes in the semester. Of course, this is not truly a final, summative examination, but a final test administered when students should still be receiving instruction. A legitimate final examination is summative, and is preceded by a reading period so that students may benefit from reviewing the semester's work. A significant number of professors continues to have negative opinions in regard to summative evaluations but cannot give very convincing reasons for their views other than the opinion that summative evaluations are unnecessary.

7, 8. Some professors never utilize the testing center. One reason given is that their student evaluations cannot be done properly in the testing center. Obvious hurdles are the absence of pianos, typewriters, drafting tables, or easels in the testing center. Other reasons given are that there is a greater potential for cheating and that students cannot ask the professor a question during the examination. Other professors split their testing between class, laboratory, recitation, and the testing center. Some professors depend heavily on the testing center services and have tailored their courses to include the testing center as an integral part of their evaluation process. In nursing and some math courses, for example, extensive computerized test banks have been composed so that students may

retake tests several times to achieve mastery. This could not be done in class since it would use up too much time.

9. A small percentage of examinations at MCCC are departmental, and when departmental, they are usually final examinations. A unique departmental examination is the final English composition essay which is graded by two instructors other than the students' instructor. A few commercial test banks are used, but at least one of these was authored by MCCC instructors. Thus, the overwhelming majority of examinations are teacher-made, regardless of the type, and the role of student evaluation clearly rests on individual instructors.

10. Students at MCCC are very well informed regarding what is expected of them in preparation for evaluation. The major mode of transmitting this information from instructor to student is by detailed course outliens and (or) detailed sets of objectives. The reason for such uniformity is that it has been a standing college objective for faculty to teach by objectives and to keep students well informed of what is expected of them; the yearly faculty accumulative evaluation includes this as one of its criteria. Some methods used by individual faculty members in addition to detailed course outlines and objectives, include sample preparatory examinations (in history and mathematics), classroom discussion of problems and illustration of good work (in English and art) and recitation classes where expectations are reviewed in detail.

11. Many MCCC professors have encountered a variety of types of physically handicapped students, and have made

adjustments in their teaching and (or) evaluation methods in order to be accommodating. A student with cerebral palsy was given examinations orally; one with multiple sclerosis was allowed to take tests home; a blind student had a reader; a paraplegic typed with his head; opscans were filled in for a student who could not write; a deaf student felt the vibrations coming from a piano; a laboratory table was modified to accommodate a student in a wheel chair. Although there is no official college policy, it is obvious that MCCC professors are willing to be helpful in whatever way pssible to meet the challenge of helping handicapped students as the need arises.

12. The question asking how individual faculty members' evaluations insure that students master the subject and remain interested and challenged elicited the least satisfactory answers. Generally, faculty said that it follows that they must be accomplishing these objectives since they are evaluating rigorously and comprehensively.

13. Most faculty members seemed comfortable with the idea of including evaluation of an instructor's examinations as part of the yearly formal accumulative evaluation that is contractually mandated at MCCC. The only objections were in regard to a possible infringement on academic freedom since the content of an instructor's examiantions is akin to his course content.

14. Several MCCC faculty members had at least one course in student evaluation methods as part of their formal college education. Most never had training of any kind in evaluation methods and basically imitate the methods of their former teachers with improvements and refinements learned by experience.

Conclusions

At community colleges, student evaluation is one of the most crucial aspects of the total educational process; whether students succeed or fail in reaching their educational goals depends substantially on the quality of evaluation. The open door policy and acknowledged goal to salvage many students who otherwise never would have attained a higher education set community colleges aside from selective four year colleges and universities. Since teachers are almost totally responsible for student evaluation at community colleges, high priority must be given to this aspect of the educational process.

At MCCC, student evaluation is frequent and is tailored to the subject matter and special needs of students. There is rapid feedback and communication to students in regard to expectations. A surprising number of MCCC teachers have had formal training in evaluation methods, and most are almost continually analyzing strategies for improving student success. The MCCC administration has been supportive of the importance of student evalaution, as evidenced by the creation and financial support of the testing center and the recently improved attitude toward final examinations.

The nurturing of students at the community college level has its pitfalls, if overdone, especially for transfer students, who may find it difficult to make a smooth transition to the four year institution where student evaluation is more commonly limited to midterms and final examinations. While the average community college freshman student needs more guidance than the average four year college freshman, community college teachers need to address the task of insuring that community college graduates have attained sufficient independence to compete effectively with four year college juniors.

Although some MCCC teachers, especially in the sciences, have always given final examinations, and more are doing so since it has been mandated that some sort of summative evaluation be given, there are still serious deficiencies. In some courses, no examination is given after the last week of classes so that the study period and final examination period is not utilized. This deficiency is exacerbated by the administration which is not giving full support for final examinations. Shortcomings in this support include reduced services during the final examination period and a study period that is too short to allow students to prepare adequately for examinations.

Overall, MCCC is doing well in the area of student evaluation. Smooth transition of transfer students into four year colleges, and deficiencies in summative evaluations, need to be addressed for further improvement.

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